A REMARKABLE INSTANCE OF SEXUAL DIMORPHISM IN A NEW SPECIES, RHOPALANDROTHRIPS NILGIRIENSIS

(Thysanoptera: Terebrantia)

T. N. ANANTHAKRISHNAN

Loyola College, Madras-31, S. India

Notable records of sexual dimorphism among terebrantian Thysanoptera from India are rare, except for such of the more common characteristics of the male, as their apterous nature, lack of ocelli, and so forth. In this connection, mention may be made of *Exothrips madrasensis* Ananthakrishnan, where joint V of the male antenna is unique in being small, distinctly concave at inner margin, convex along the outer and with a tooth-like protuberance carrying a well developed spine, at the apex of the inner margin. Further, the fore-tibia in the male is armed with a sharp tooth at apex within, a character also met with in *Perissothrips parviceps* Bagnall and *P. aureus* Ananthakrishnan. *Rhopalandrothrips* Priesner, has elongated, bacilliform antennae in the male, more especially the VI joint which is so modified, a character much as in *Sorghothrips* Priesner. The sixth antennal joint is as long as joints III and IV in *Rhopalandrothrips ricini* Shumsher, the only hitherto known species from India; in *Rhopalandrothrips consociatus* (Targioni-Tozzetti), joint VI is as long as the combined lengths of all the other joints while in *R. obscurus* Uzel, it is longer. *Rhopalandrothrips nilgiriensis* new species, is remarkable, since the VI antennal joint of the male is nearly five times as long as that of the female and much longer than the combined lengths of the other joints. It must also be stated in this context, that in *R. nilgiriensis*, apart from the differential nature of joint VI in the male, there is considerable difference in the sizes and shapes of antennal joints III-V. There is a progressive decrease in the sizes of joints III-V, the fifth being short, cup-shaped and broadly united with the sixth.

Rhopalandrothrips nilgiriensis Ananthakrishnan, new species

Macropterous female: Total body length, 1.16 mm. Body colour: Head and thorax orange yellow; abdominal segments I-VIII pale greyish yellow; apex of IX and X dark grey brown. Antennal joints uniform brown. Forewings greyish, setae brown; hindwings pale, with a longitudinal brownish streak; fringes brown. Legs, yellowish grey. Eyes black, ocelli with dark red pigment. *Head* 1.2 times broader than long, being 120μ long and 140μ wide across eyes. Vertex slightly depressed between eyes. with a distinct notch between antennal bases. Eyes prominently

pilose, about as long as cheeks. Postocular setae short, 28μ long and interoculars 32μ long. Head at base with clear transverse striae. Mouth cone 122μ long, reaching near the hind margin of prosternum. Maxillary palp 51μ long, individual joints measuring 22, 13 and 16μ long respectively. Labial palps 16μ long. Antenna nearly 2.5 times as long as head; segments 3 and 4 vase-like with slender, pointed, horseshoe-like sense cones. *Antennal joints*, length (width) in μ:—29(26); 38(26); 51(19); 54(19); 34(16); 45(19); 8(8); 16(6). *Prothorax*, 140μ long at middle, hind margin distinctly arched, surface densely setose. Anterior angles with a small spine 19μ long; hind angles with a pair of well developed spines, outer 58μ long and inner 61μ long; hind margin with two pairs of spines, the outer small and half as long as the inner, which is 35μ long. *Pterothorax*, 238μ long. Wings well developed, 910μ long, 98μ wide at base, 56μ at middle and 35μ at tip. Wing chaetotaxy: costa 26; upper vein 4 + 3 (at base) + 2 (at tip); lower vein 16 in a row. *Abdomen* broad at middle, narrowing towards apex; VIII abdominal segment with a well developed comb. The outer, middle and inner bristles of IX abdominal segment, 93, 125 and 166μ long respectively; tenth segment with outer and inner bristles 109 and 115μ long; ovipositor 238μ long.

Macropterous male: Total body length 1.008 mm. Coloration as in the female, but darker; head and thorax of a darker hue; abdomen darker grey brown; wings grey brown with an orange tinge; antenna darker brown. *Head* 112μ long, 126μ wide across cheeks; cheeks slightly serrate, with transverse striae at base. Eyes 70μ long and almost as wide. Antenna more than three times as long as head. Antennal joints III–VI totally differing in size and shape from those of the female, especially joint VI which is nearly five times as long as that in the female, profusely setose, the setae arising from distinct warts. Antennal joints, length (width) in μ: — 29(26); 38(28); 43(21); 26(19); 16(19); 211(29 at base); 5(3); 10(5). *Prothorax* 112μ long, 168μ wide at base; pterothorax 252μ long, 224μ wide across mesothorax and 196μ wide across metathorax. Wings well developed, 742μ long, 70μ wide at base, 49μ at middle and 42μ at tip. Wing chaetotaxy: costa 26; upper vein, 6 (at base) + 2 (at tip); lower vein, with 15 in a row. The outer, middle and inner bristles of IX abdominal segment and the outer and inner bristles of the X abdominal segment, 77, 64 and 102μ and 86 and 77μ long respectively. *Genitalia*, Length of hypophallic arms and the median phallus, subequal, 99μ long.

Holotype male and a female on pear leaves, May 3, 1957, POMOLOGICAL STATION, COONOOR (5500′), INDIA. Types with the author (T.N.A. 274).

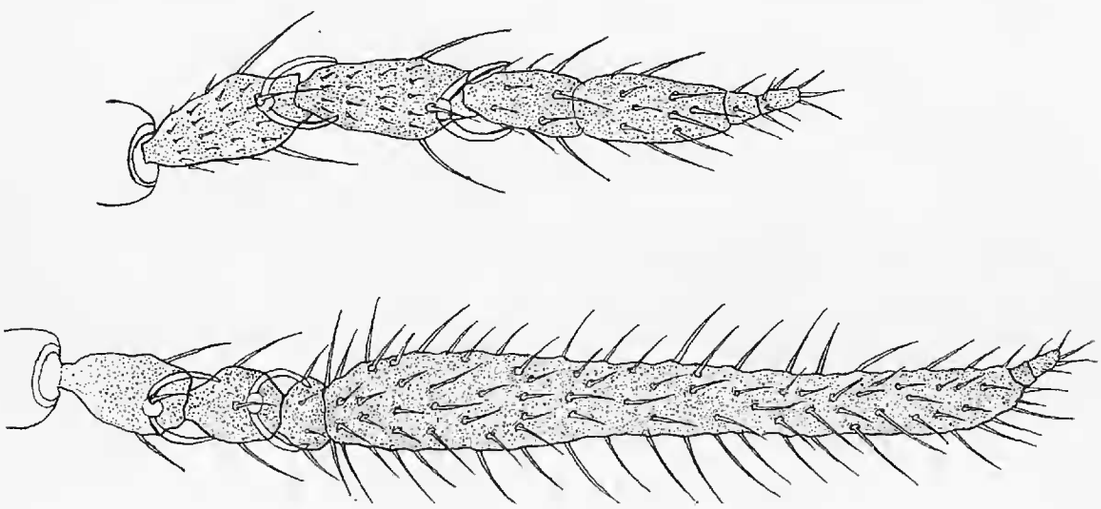
A comparison of *R. nilgiriensis* with the other species of the world, namely, *R. annulicornis* Uzel, *obscurus* Uzel, *consociatus* (Targ. Tozz.), *corni* Moulton and *ricini* Shumsher reveals that it is now possible to classify the existing species into two groups, namely, the *consociatus* group, with antennal joint VI of the

male as long as or much longer than joints I-V together, and the *annulicornis* group with joint VI shorter than joints I-V respectively. Accordingly, *R. nilgiriensis* Ananthakrishnan belongs to the *consociatus* group while *annulicornis, obscurus, corni* and *ricini* belong to the *annulicornis* group.

KEY TO SPECIES OF RHOPALANDROTHRIPS (MALES)

1. Antennal joint VI longer than combined length of joints I-V.....2
– Antennal joint VI shorter.....4
2. Joint VI as long as or slightly longer than combined length of I-V ..... *consociatus* (Targioni-Tozzetti)
– Joint VI very much longer.....3
3. Lower vein of forewing with 14 or less setae.....*obscurus* Uzel[1]
– Lower vein with more than 14 setae.....*nilgiriensis* Ananthakrishnan
4. Antenna 6-jointed, apterous.....*annulicornis* (Uzel)
– Antenna 8-jointed, macropterous.....5
5. Joints III and IV much shorter than VI.....*corni* Moulton
– Joints III and IV as long as VI.....*ricini* Shumsher

The author is particularly indebted to the Ministry of Education, Government of India, for the award of a grant for the survey of Thysanoptera of Ootacamund and Kodaikanal Hills.



EXPLANATION OF FIGURES

Rhopalandrothrips nilgiriensis Ananthakrishnan; upper, antenna of female; lower, antenna of male.

REFERENCES

ANANTHAKRISHNAN, T. N.

1954. New and little known Indian Thysanoptera. Jour. Zool. Soc. India, 6(2):159.

1956. Studies on some Indian Thysanoptera III. Zool. Anzeiger Bd. 157:130.

[1] The female of *obscurus* shows definite differences from *nilgiriensis*.

MORISON, G. D.
1948. Thysanoptera of the London area. "London Naturalist" reprint 59, pt. II:58.
MOULTON, D.
1927. Four new California Thysanoptera with notes on two other species. Pan-Pac. Ent. 4(1):34.
PRIESNER, H.
1922. Beiträge zur Lebensgeschichte der Thysanopteren. Sitz. Akad. Wiss. Wien 13(4):68–73.
1936. On some further new Thysanoptera from the Sudan. Bull. Soc. Roy. Ent. D'Egypt:88.
1949. Genera Thysanopterorum. Bull. Soc. Foud. Ier Entom. XXXIII(31):53.
SHUMSHER, SINCH
1947. Studies on the systematics of Indian Thysanoptera—Terebrantia. Indian Jour. Ent. 7:176.
TARGIONI-TOZZETTI
1886. Bull. Soc. Ent. Ital.:425. (not seen in original).
UZEL, H.
1895. Monographie der Ordnung Thysanoptera.

AN ADDITIONAL NOTE ON THE LIFE HISTORY OF MITOURA SPINETORUM (HEWITSON)

(Lepidoptera: Lycaenidae)

A lycaenid larva taken on May 16, 1959, at Russelman Park, Mt. Diablo, Contra Costa County, California, by W. S. Ross, was subsequently turned over to Tilden, who reared from it a normal male of *Mitoura spinetorum* (Hew.).

The larva was found on Pine Dwarfmistletoe *(Arceuthobium campylopodum* Engelm.), a previously recorded foodplant. The larva pupated on May 17, and the imago emerged June 14, 1959, after the long pupal period of twenty-eight days. The color of the larva matched the foodplant perfectly. The pupa however was very dark brown and was hidden in the branches of the foodplant and held in place by an incomplete silken girdle.

This insect is uncommon in the Mt. Diablo area. This is the first recorded rearing of the species from Contra Costa County or from the San Francisco Bay Region of California.

There appear to be but three previous references[1] to the life history habits of *Mitoura spinetorum*.—J. W. TILDEN, *San Jose State College, San Jose, California.*

[1] Comstock, J. A., & C. M. Dammers, 1938. Bull. So. Calif. Acad. Sci. 37:30-32.
Garth, J. S.,, 1950. Grand Canyon Nat. Hist. Assoc. Bull. 11:31.
Remington, C. L., 1958. Lep. News 12:14.